Instructional Materials Evaluation Criteria (name and grade of the core document used to align)

_____**Algebra 2**_____

Title __*Algebra 2 © 2008*_____ **ISBN#** ___**978-0-07-0873830-2**_____

Publisher: ___**Glencoe McGraw-Hill**_____

Name of Person conducting alignment: __**not available**_____

Overall percentage of coverage of the Utah State Core Curriculum: __**100%**

Standard I: Students will acquire number sense and perform operations with complex numbers and matrices.

Percentage of coverage for Standard I: 100%

Objectives	Indicators	If covered, appropriate page #'s	Comments on coverage
Objective 1: Represent and compute fluently with complex numbers and matrices.	a. Simplify numerical expressions including those with rational exponents.	**Student Edition:** 312-317, 415-421, 427 #49-#51 *Foldables* 430 *Study Guide and Review* 433 7-6 **Teacher Wraparound Edition:** A 421; AE 313-315, 416-418; FC 416; I 416	
	b. Simplify expressions involving complex numbers and express them in standard form, $a + bi$.	**Student Edition:** 261-265, 272 Example 6, 279 Example 4, 363 *Algebra Lab* 262 *Study Guide and Review* 304 5-4 **Teacher Wraparound Edition:** AE 261-263; F 263	

		If covered, appropriate page #'s	
	c. Add, subtract, and multiply (including scalar multiplication) matrices using paper and pencil and computer programs or calculators.	**Student Edition:** 169-175, 177-184, 185-188, 192 #52-#53 *Graphing Calculator Lab* 172 *Study Guide and Review* 225 4-2, 226 4-3 **Teacher Wraparound Edition:** AE 170-172, 180; DI 172; I 175	
	d. Find and verify the multiplicative inverse of a matrix using paper and pencil for a 2 x 2 and computer programs or calculators for larger matrices.	**Student Edition:** 208-214, 218-219 Example 3, 222 #40-#42 *Study Guide and Review* 228 4-7 **Teacher Wraparound Edition:** AE 209-211; PA 211	
Objective 2: Identify relationships among matrices and operations involving matrices.	a. Demonstrate that matrix multiplication is associative and distributive, but not commutative.	**Student Edition:** 171-175, 177-184, 187 Example 3 *Study Guide and Review* 226 4-3 **Teacher Wraparound Edition:** AE 171, 178, 180; DI 210; MP 180; P 179	
	b. Determine additive and multiplicative identities and inverses of a matrix when they exist.	**Student Edition:** 169-170, 173-175, 185-186 *Study Guide and Review* 225 4-2 **Teacher Wraparound Edition:** F 171; I 175	

Standard II: Students will represent and analyze mathematical situations and properties using patterns, relations, functions, and algebraic symbols.

Percentage of coverage for Standard II: 100%

Objectives	Indicators	If covered, appropriate page #'s	Comments on coverage
Objective 1: Represent mathematical situations using patterns, relations, and functions.	a. Model real life relationships with functions.	**Student Edition:** 60 Example 2, 95-96 Example 1, 99 #11-#13, 239-240 Example 4, 241 #11, 248 Example 5, 290 #11-#12, 398 Example 2, 475 Example 2 *Get Ready* 236 *Graphing Calculator Lab* 252, 293 **Teacher Wraparound Edition:** AE 60, 96, 239 #4, 500 #3	

	b. Determine when a relation is a function.	**Student Edition:** 58-64, 70 #61-#62, 95-98 *Foldables* 106 *Study Guide and Review* 107 2-1 **Teacher Wraparound Edition:** AE 60; FC 59, 60; GR 59; I 59	
	c. Use function notation.	**Student Edition:** 61, 63 #35-#42, #54, 66-67 Example 1-Example 2, 70 #54, 77 #60-#63, 95-100 *Graphing Calculator Lab* 78 **Teacher Wraparound Edition:** AE 67, 97	`
	d. Compose functions when possible.	**Student Edition:** 385-390, 401 #39-#41, 511 *Mid-Chapter Quiz* 407 #1-#6 *Study Tip* 393 **Teacher Wraparound Edition:** A 396; AE 386-387; EA 390; FC 385; I 393	
	e. Add, subtract, multiply, and divide functions.	**Student Edition:** 384-385, 388, 396 #47-#49 *Mid-Chapter Quiz* 407 #1-#6 *Study Guide and Review* 431 7-1 **Teacher Wraparound Edition:** AE 385; EA 390; FM 385	
	f. Determine whether or not a function has an inverse, and find the inverse when it exists.	**Student Edition:** 391-395, 401 #36-#38, 406 #61 *Algebra Lab* 394 *Mid-Chapter Quiz* 407 #9-#12 **Teacher Wraparound Edition:** A 396; AE 392-393; DI 392	

Objective 2: Model and solve quadratic equations and inequalities.	a. Model real life situations using quadratic equations.	**Student Edition:** 248 Example 5, 250 #30-#31, #44-#45, 257 #32, #47-#49, 272 #5-#7, 274, 281 #31-#33, 290 #11-#12 *Graphing Calculator Lab* 252 **Teacher Wraparound Edition:** AE 248	
	b. Solve quadratic equations of a single variable over the set of complex numbers graphically, by factoring, by completing the square, and using the quadratic formula.	The examples listed below include those with negative discriminants. **Student Edition:** 277, 278 Example 4, 281 #1-#8, #25-#27, 282 #46, #50 **Teacher Wraparound Edition:** AE 277 #1, 278; FM 279	
	c. Solve quadratic inequalities of a single variable.	**Student Edition:** 294-300, 605-606 Example 3 *Study Guide and Review* 306 5-8 **Teacher Wraparound Edition:** AE 295-297, 605; FM 296	
	d. Write a quadratic equation when given the solutions of the equation.	**Student Edition:** 246, 253 Example 1, 256 #1-#3, #14-#26, 257 #43-#46, 266 #8-#81 *Mid-Chapter Quiz* 267 #16 *Study Tip* 253 **Teacher Wraparound Edition:** AE 254 #1	
Objective 3: Evaluate, analyze, and solve mathematical situations using algebraic properties and symbols.	a. Solve and graph first-degree absolute value equations of a single variable.	**Student Edition:** 28-31, 39 #62-#64, 48 #59-#62 *Study Guide and Review* 51 1-4 **Teacher Wraparound Edition:** AE 28-29; PA 251	
	b. Solve radical equations of a single variable including those with extraneous roots.	**Student Edition:** 422-427 *Graphing Calculator Lab* 428-429 *Study Guide and Review* 434 7-7 **Teacher Wraparound Edition:** AE 423-424; FC 423; PA 427	

Objectives	Indicators	If covered, appropriate page #'s	Comments on coverage
	c. Solve absolute value and compound inequalities of a single variable.	**Student Edition:** 43-48, 103 Example 3, 295-300 *Study Guide and Review* 52 1-5, 306 5-8 **Teacher Wraparound Edition:** AE 44, 103 #3, 296-297; PA 44	
	d. Add, subtract, multiply, and divide rational expressions and solve rational equations.	**Student Edition:** 444-448, 451-456, 471 #56-#58, 463 #57-#59 *Study Guide and Review* 489 **Teacher Wraparound Edition:** AE 444-446, 451-453; I 444; PA 456	
	e. Simplify algebraic expressions involving negative and rational exponents.	**Student Edition:** 415-421, 427 #49-#51 *Foldables* 430 *Study Guide and Review* 433 7-6 **Teacher Wraparound Edition:** A 421; AE 416-418; FC 416; I 416	

Standard III: Students will model and solve problems using spatial and logical reasoning, and applications of geometric principles.

Percentage of coverage for Standard III: 100%

Objectives	Indicators	If covered, appropriate page #'s	Comments on coverage
Objective 1: Examine the behavior of functions using coordinate geometry.	a. Identify the domain and range of the absolute value, quadratic, radical, sine, and cosine functions.	**Student Edition:** 97 Example 2, 99 #20-#25, 100 #35-#36, 239 Example 3c, 241 #7-#10, #22-#32, 242 #45-#50, 406 #58-#60, 760, 807 *Graphing Calculator Lab* 97 *Study Tip* 97 **Teacher Wraparound Edition:** AE 97; FC 97	
	b. Graph absolute value, quadratic, radical, sine and cosine functions.	**Student Edition:** 97 Example 2, 99 #5-#6, #20-#25, 100 #35-#36, #49, 105 #45-#46, 240 Example 4b, 241 #12-#21, 246-251 *Graphing Calculator Lab* 97 **Teacher Wraparound Edition:** AE 97, 236-238, 247-248	

	c. Graph the solutions of absolute value and quadratic inequalities.	**Student Edition:** 103 Example 3, 104 #5-#6, #20-#21, #30-#34, 105 #40, 294-300, 424 Example 3 *Study Guide and Review* 306 5-8 *Study Tip* 297 **Teacher Wraparound Edition:** AE 103, 295-297; DI 297; FC 296	
	d. Graph functions using transformations of parent functions.	**Student Edition:** 97 Example 2 *Graphing Calculator Lab* 97, 284-285, 428-429, 801-805, 823-827, 830-836 *Graphing Calculator Lab* 829 **Teacher Wraparound Edition:** AE 97, 385, 802, 825; PA 805	
	e. Write an equation of a parabola in the form $y = a(x-h)^2 + k$ when given a graph or equation.	**Student Edition:** 567-573, 598-600 *Study Guide and Review* 611 10-2 **Teacher Wraparound Edition:** AE 568; F 570; PA 573	
Objective 2: Solve systems of equations and inequalities.	a. Solve systems of linear, absolute value, and quadratic equations algebraically and graphically.	**Student Edition:** 116-121, 123-129, 145-151, 216-221 *Graphing Calculator Lab* 223 **Teacher Wraparound Edition:** AE 117-119, 124-126, 146-149, 217-218; FC 118	
	b. Graph the solutions of systems of linear, absolute value, and quadratic inequalities.	**Student Edition:** 43, 45, 102-105, 294-300 *Study Guide and Review* 52 1-5, 110 2-7 **Teacher Wraparound Edition:** AE 43-44, 103, 295-297	
	c. Solve application problems involving systems of equations and inequalities.	**Student Edition:** 130-135, 138-143 *Graphing Calculator Lab* 136 **Teacher Wraparound Edition:** AE 131-132, 139; PA 122	

		Matrices can be used with the following examples. **Student Edition:** 116-121, 123-129, 145-151, 216-221 *Graphing Calculator Lab* 223 **Teacher Wraparound Edition:** AE 117-119, 124-126, 146-149, 217-218; FC 118	
d. Solve systems of linear equations with up to three variables using matrices.			

Standard IV: Students will understand and apply measurement tools, formulas, and techniques.

Percentage of coverage for Standard IV: 100%

Objectives	Indicators	If covered, appropriate page #'s	Comments on coverage
Objective 1: Determine radian and degree measures for angles.	a. Convert angle measurements between radians and degrees.	**Student Edition:** 761-766, 768-773, 776-783, 792 #42-#47 *Algebra Lab* 775 *Study Guide and Review* 813 13-2 **Teacher Wraparound Edition:** AE 761-764, 769-771, 777-778; FC 771	
	b. Find angle measures in degrees and radians, including exact values for special triangles, using inverse trigonometric functions.	**Student Edition:** 761-766, 768-773, 776-783, 792 #42-#47 *Algebra Lab* 775 *Study Guide and Review* 813 13-2 **Teacher Wraparound Edition:** AE 761-764, 769-771, 777-778; FC 771	
Objective 2: Determine trigonometric measurements using appropriate techniques, tools, and formulas.	a. Define the sine, cosine, and tangent functions using the unit circle.	**Student Edition:** 769, 799-800, 803 #1-#2, #7-#12 **Teacher Wraparound Edition:** A 805; AE 800	
	b. Determine the exact values of the sine, cosine, and tangent functions for the special angles of the unit circle using reference angles.	**Student Edition:** 800, 801 Example 2, 803 #3-#4, #13-#18, 804 #25-#30, 811 #48-#50 *Graphing Calculator Lab* 800 *Study Guide and Review* 816 13-6 **Teacher Wraparound Edition:** AE 801	`

	c. Find the length of an arc using radian measure.	**Student Edition:** 768	
	d. Find the area of a sector in a circle using radian measure.	**Student Edition:** 772 #34-#35, 773 #56	

Standard V: Students will apply concepts and methods from probability and statistics to solve real problems.

Percentage of coverage for Standard V: 100%

Objectives	Indicators	If covered, appropriate page #'s	Comments on coverage
Objective 1: Use percentiles and measures of variability to analyze data.	a. Compute and compare different measures of spread, including the range, standard deviation, and interquartile range.	**Student Edition:** 718-722, 724-728 *Algebra Lab* 734 *Graphing Calculator Lab* 719 *Prerequisite Skills* 884 Example 4, 889-890 *Study Guide and Review* 748 **Teacher Wraparound Edition:** AE 725; FM 718, 725; PA 702	
	b. Recognize situations in which the interquartile range might be more appropriate than the standard deviation or range.	**Student Edition:** *Prerequisite Skills* 884 Example 4, 889-890	
	c. Use percentiles to summarize the distribution of a numerical variable.	**Student Edition:** 704-705, 721 #25-#26, 726-727 *Algebra Lab* 734 #7 **Teacher Wraparound Edition:** AE 705; FM 718	
	d. Use histograms to obtain percentiles.	The following examples can be used to obtain percentiles. **Student Edition:** 699 Example 3, 700 #6-#7, 701 #22-#26, 725 Example 1 **Teacher Wraparound Edition:** AE 699	

Objective 2: Apply basic concepts of probability.	a.	Distinguish between permutations and combinations, and situations in which each is appropriate.	**Student Edition:** 690-695, 711, 745-746 *Reading Math* 696 *Study Guide and Review* 746 12-2 **Teacher Wraparound Edition:** FC 692; T 690	
	b.	Calculate probabilities using permutations and combinations.	**Student Edition:** 690-695, 697-699 *Study Guide and Review* 746 Example 3 **Teacher Wraparound Edition:** AE 698-699	
	c.	Define conditional probability, and know and use the general multiplication rule for probabilities.	**Student Edition:** 705-709, 735-737 *Study Guide and Review* 746 12-3, 12-4 **Teacher Wraparound Edition:** AE 705-706; FM 705; PA 707	
	d.	Compute conditional and unconditional probabilities in various ways, including by definitions, probability trees, and Bayes' Theorem.	**Student Edition:** 524 #22-#24, 697-702, 705-709, 712, 730-731 **Teacher Wraparound Edition:** AE 698-699, 704-706, 712, 731	
	e.	Define simple discrete random variables.	**Student Edition:** 699	